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TITLE : DARK GREEN GLASS

ABSTRACT : PROBLEM TO BE SOLVED: To obtain a glass having rather low transmittance for visible rays and high shielding performance against UV rays and sun rays by using a glass having a soda lime silica glass component as the basic compsn. and containing specified proportions of Fe<sub>2</sub>O<sub>3</sub>, CoO, Cr<sub>2</sub>O<sub>3</sub>, NiO, TiO<sub>2</sub>, SO<sub>3</sub>, a specified iron ion ratio (Fe<sup>2+</sup>/Fe<sup>3+</sup>) and a specified dominant wavelength measured by using a D-light source.

SOLUTION: As for the silica glass, for example, it contains, by wt.%, 68 to 73 SiO<sub>2</sub>, 0 to 3 Al<sub>2</sub>O<sub>3</sub>, 0 to 5 MgO, 5 to 12 CaO, 10 to 15 Na<sub>2</sub>O, and 0 to 3 K<sub>2</sub>O. The dark green glass contains, by wt.%, 0.9 to 1.8 Fe<sub>2</sub>O<sub>3</sub> (all iron), 0.008 to 0.0165 CoO, 0.01 to 0.045 Cr<sub>2</sub>O<sub>3</sub>, 0.008 to 0.08 NiO, 0.2 to 0.9 TiO<sub>2</sub>, 0.10 to 0.35 SO<sub>3</sub> (all sulfur) and has 0.25 to 0.45 iron ion ratio and 490 to 520 nm dominant wavelength measured by a D-light source. The glass having 5 mm thickness has ≤10% transmittance for UV rays, ≤35% transmittance for visible rays and ≤20% transmittance for sun rays.

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